

ABSTRACT OF THE INVENTION

5 The present invention relates to methods and compositions for the treatment and diagnosis
of cardiovascular disease, including, but not limited to, atherosclerosis, advanced
atherosclerosis/plaque rupture, ischemia/reperfusion, hypertension, restenosis, cardiac
calcification, allo/xenograft valvular calcifications, and arterial inflammation. Specifically, the
present invention identifies and describes genes which are differentially expressed in
cardiovascular disease states, relative to their expression in normal, or non-cardiovascular
disease states, and/or in response to manipulations relevant to cardiovascular disease. Further,
10 the present invention identifies and describes genes via the ability of their gene products to
interact with gene products involved in cardiovascular disease. Still further, the present
invention provides methods for the identification and therapeutic use of compounds as
treatments of cardiovascular disease. Moreover, the present invention provides methods for
the diagnostic monitoring of patients undergoing clinical evaluation for the treatment of
15 cardiovascular disease, and for monitoring the efficacy of compounds in clinical trials.
Additionally, the present invention describes methods for the diagnostic evaluation and
prognosis of various cardiovascular diseases, and for the identification of subjects exhibiting
a predisposition to such conditions. Moreover, the present invention is further based in part on
the generation and phenotypic characterization of transgenic knockout homozygous rchd534
20 mutant mice which display characteristic cardiovascular disease symptoms. Such transgenic
knockout homozygous rchd534 mutant mice are useful models for the analysis and
characterization of rchd534 protein involvement in development and homeostasis of the
cardiovascular system and tissue-specific regulation of the TGF- β signaling pathways.

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